Minnesota Department of Education

Agricultural Education
Program Descriptions
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MN Department of Education
Career and Technical Education

Agricultural Education
Course Descriptions

Agricultural Exploration

OE Code 010001

Agriculture Exploration courses focus on the animal sciences, plant sciences, natural resource sciences, agricultural business and marketing, and leadership development. The focus of these courses includes career planning, leadership development, and development of a strong academic foundation for students.

Possible course titles:

- Animal Science
- Biotechnology
- Animal Health
- Aquaculture
- Small Animal Science
- Meat Science
- Agribusiness Management
- Farm Business Management
- Entrepreneurship in Agriculture
- International Agriculture
- Computer Applications in Agriculture
- Agriculture Mechanics
- Small Gasoline Engines
- Soil and Water Management
- Agricultural Carpentry
- Agricultural Technology
- Horticulture
- Landscaping
- Floriculture (Floral Production)
- Plant & Soil Science
- Forestry Science
- Environmental Science
- Wildlife Conservation
- Agriculture Leadership
- Internship

Agribusiness Management

OE Code 010200

Agribusiness Management courses focus on the development of competencies related to sound business practices. Courses provide students with skills related to careers in sales, marketing, and service in the agriculture sector. Practices in financial and business organization including accounting, business analysis, and banking are included in this course content area. The development of leadership skills and work experience to apply these concepts are encouraged.

Possible course titles:

- Agriculture Economics
- Agriculture Management
- Farm Business Management
- Agriculture Business Organization
- Entrepreneurship in Agriculture
- Agriculture Sales and Marketing
- Agriculture Supplies & Services
- Agriculture Credit and Insurance
- Agriculture Law
- International Agriculture
- Computer Applications in Agriculture
- Agriculture Commodity Marketing
- Agriculture Leadership
- Internship

Agricultural Mechanics Technology

OE Code 010300

Agricultural Mechanics Technology courses focus on the development of competencies related to agriculture power, structures, electricity, soil and water management, and metal fabrication. These courses build on a strong academic foundation in math and science by teaching students to apply these concepts. The development of leadership skills and work experience to apply these concepts are encouraged.

Possible course titles:

- Agriculture Mechanics I, II
- Small Gasoline Engines
- Agriculture Power Mechanics
- Agriculture Machinery Maintenance & Operations
- Agriculture Hydraulics/Pneumatics
- Soil and Water Management
- Surveying and Land Measurement
- Agricultural Carpentry
- Agriculture Building and Structures
- Agriculture Electrification
- Agriculture Materials Handling
- Agriculture Technology
- Ag Welding Technology I, II
- Agriculture Leadership
- Internship

Horticulture and Landscaping Management

OE Code 010500

Horticulture and Landscaping Management programs focus on plant sciences, biotechnology, floriculture, nursery and bedding plant production, and natural resource science. These courses include career planning leadership development and development of a strong academic foundation for students. The course content may include entrepreneurship and horticultural business management concepts.

National Agriculture Education Standards may be used to develop curriculum for this area. National standards include:

Horticulture and Landscaping Management
National Voluntary Occupational Skills Standards
- Agricultural Biotechnology Technician

Possible course titles:

- Biotechnology
- Agricultural Economics
- Agribusiness Management
- Entrepreneurship in Agriculture
- Agriculture Sales and Marketing
- Agriculture Supplies and Services
- Agriculture Credit and Insurance
- Agriculture Law
- International Agriculture
- Computer Applications in Agriculture
- Small Gasoline Engines
- Soil and Water Management
- Agriculture Building Structures
- Agriculture Electrification
- Ag Welding Technology I, II
- Horticulture I, II, III
- Greenhouse Operation & Management
- Landscaping I, II
- Nursery Operation & Management
- Turf Production & Management
- Floriculture (Floral Production)
- Fruit Production
- Vegetable Production
- Plant and Soil Sciences
- Greenhouse Construction
- Agriculture Leadership
- Internship

Forestry and Natural Resource Management

OE Code 010600

Forestry and Natural Resource Management programs focus on plant sciences, biotechnology, forestry and forest management, and nursery and natural resources sciences. Natural resources sciences include the science and management of soil, water, air, plant, and animal species. These courses include career planning, leadership development and development of a strong academic foundation for students. The development of leadership skills and work experience to apply these concepts are encouraged.

National Agriculture Education Standards may be used to develop curriculum for this area. National standards include:

Forestry and Natural Resource Management
National Voluntary Occupational Skill Standards
- Agricultural Biotechnology Technician

Possible course titles:

- Biotechnology
- Aquaculture
- Agricultural Economics
- Agribusiness Management
- Agricultural Power Mechanics
- Agriculture Machinery Maintenance & Operations
- Agriculture Hydraulics/Pneumatics
- Soil and Water Management
- Surveying and Land Measurement
- Agriculture Building and Structures
- Forestry Science
- Forest Management
- Forest Products Evaluation & Marketing
- Forest Land Measurement, Surveying
- Tree Management
- Forestry and Natural Resources Science
- Environmental Science
- Forestry & Natural Resources Equipment
- Natural Resources Management
- Wildlife Conservation
- Agriculture Leadership
- Internship

Agricultural Combined Program

OE Code 019901

Agricultural Combined Program courses focus on animal sciences, plant sciences, natural resources sciences, agricultural business and marketing, agricultural mechanics technology, and leadership development. The focus of these courses include career planning, leadership development and development of a strong academic foundation for students. The development of work experience opportunities to apply these concepts is encouraged.

National Agriculture Education Standards may be used to develop curriculum for this area. National standards include:

Agriculture Combined Programs
National Voluntary Occupational Skill Standards
- Agriculture Biotechnology Technician

Possible course titles:

- Animal Science I, II
- Biotechnology
- Nutrition
- Animal Reproduction
- Animal Health
- Animal Physiology
- Aquaculture
- Beef Science
- Dairy Science
- Equine Science
- Poultry Science
- Sheep Science
- Small Animal Science
- Swine Science
- Meat Science
- Agricultural Economics
- Agribusiness Management
- Farm Business Management
- Agriculture Business Organization
- Entrepreneurship in Agriculture
- Agricultural Sales and Marketing
- Agriculture Supplies and Services
- Agriculture Credit and Insurance
- Agriculture Law
- International Agriculture
- Computer Applications in Agriculture
- Agriculture Mechanics I, II
- Small Gasoline Engines
- Agricultural Power Mechanics
- Agriculture Machinery Maintenance & Operation
- Agriculture Hydraulics/Pneumatics
- Soil and Water Management
- Surveying and Land Management
- Agricultural Carpentry
- Agriculture Building and Structures
- Agriculture Electrification
- Agriculture Materials Handling
- Agriculture Technology
- Ag Welding Technology I, II
- Horticulture I, II
- Greenhouse Operation & Management
- Landscaping I, II
- Nursery Operation & Management
- Turf Production & Management
- Floriculture (Floral Production)
- Fruit Production
- Vegetable Production
- Plant & Soil Sciences
- Greenhouse Construction
- Forestry Science
- Forest Management
- Forest Products Evaluation & Marketing
- Forest Land Measurement, Surveying
- Tree Management
- Forestry and Natural Resources Science
- Environmental Science
- Forestry & Natural Resources Equipment
- Natural Resources Management
- Wildlife Conservation
- Crop Production I, II
- Integrated Pest Management
- Crop Scouting & Management
- Soil Science
- Soils, Fertilizers, Chemicals, Pesticides
- Marketing Agriculture Commodities
- Agriculture Leadership
- Internship

Animal Science and Technology

OE Codes 019910

Animal Science and Technology courses focus on the animal sciences, biotechnology, and leadership development. The core areas include large animal production, small animals, companion animals, equine science and aquaculture. The focus of these courses includes career planning, leadership development and development of a strong academic foundation for students. The development of Work Experience opportunities to apply these concepts is encouraged.

National Agriculture Education Standards may be used to develop curriculum in this area. National standards include:

Agriculture Animal Science and Technology
National Voluntary Occupational Skill Standards
- Agricultural Biotechnology Technician

Possible course titles:

- Animal Science I, II
- Biotechnology
- Nutrition
- Animal Reproduction
- Animal Health
- Animal Physiology
- Aquaculture
- Beef Science
- Dairy Science
- Equine Science
- Poultry Science
- Sheep Science
- Small Animal Science
- Swine Science
- Meat Science
- Agriculture Leadership
- Internship

Agriculture Cooperative Work Experience

OE Codes 019090

Agriculture Cooperative Work Experience programs focus on placement of students in an agricultural work setting. This work experience must include a work seminar course. All workstations must be screened, and training agreements and training plans must be on file. All Work Experience coordinators must be licensed agricultural education teachers and all must have the Work Experience Coordinator endorsement. Each experience should focus on the development of skills and competencies as defined by the student, workstation supervisor, parents/guardians, and coordinator.

Possible course titles:

- Occupational Relations Seminar, Agriculture
- Agriculture Leadership
- Internship

Agriculture Youth Apprenticeship

OE Codes 019095

Agriculture Youth Apprenticeship programs focus on placement of students in an agriculture apprenticeship for a minimum of 800 hours. This apprenticeship must include 144 hours of specific apprenticeship training, all apprenticeship stations must be screened, and training agreements and training plans must be on file. All Work Experience coordinators must be licensed agricultural education teachers and all must have the Work Experience Coordinator endorsement. Each apprenticeship should focus on the development of skills and competencies as defined by the students, apprenticeship stations supervisor, parent/guardian, and coordinator.

Possible course titles:

- Occupational Relations Seminar, Agriculture
- Agriculture Leadership
- Internship